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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/686,233

10/15/2003

John Sanelli

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6359

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7590

12/12/2005

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EXAMINER

CAO, HUEDUNG X

ART UNIT

PAPER NUMBER

2821

DATE MAILED: 12/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/686,233

**Applicant(s)**

SANELLI ET AL.

**Examiner**

Huedung X. Cao

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 October 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3-21 and 23-62 is/are pending in the application.
- 4a) Of the above claim(s) 41-62 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3-5,11,12,18,19,21,23-25,31,32,38 and 39 is/are rejected.
- 7) ☒ Claim(s) 6-10, 13-17, 20, 26-30, 33-37, 40 is/are objected to.
- 8) ☒ Claim(s) 1,3-21 and 23-62 are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 October 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Newly submitted claims 41-62 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons:
2. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-40, drawn to an antenna system which includes plurality of active antenna elements, a passive conductive member
  - II. Claims 41-45, and 52-56, drawn to an antenna system which includes a conductive member with a plurality of non-intersecting conductive members wherein each conductive member is associated with at least one antenna element.
  - III. Claims 46-47, and 57-58, drawn on an antenna system which includes a conductive member with a substantially angled member.
  - IV. Claims 48-50, and 59-61, drawn on an antenna system which includes a conductive member with a sandwich module for providing a further level of antenna isolation.
  - V. Claim 51, and 62, drawn on an antenna system which includes the antenna element is shorter than the respective edge of the conductive member.

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3. Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no claim is generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

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4. Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 41-62 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1, 3-5, 11-12, 18-19, <sup>21, 23-25, 31-32 and 38-39</sup> and ~~25~~ are rejected under 35 U.S.C. 103(a) as being unpatentable over CHIANG et al. (US 6864852 B2) in view of ELSON et al. (US 6,317,100 B1).

As per claim 1, Chiang teaches that claimed "an antenna" system (Chiang, figure 20, antenna system 300) comprising:

plurality of passive conductive member, having an edge displaced from and substantially directed toward the at least one antenna element (Chiang, element 202), and cooperating therewith to establish plurality of hemispherical beam pattern (Chiang, column 3, lines 17-31).

an active antenna elements for sending and receiving a wireless signal (Chiang, figure 20, dipole element 308). It is noted that Chiang does not explicitly teach

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“plurality” of active antenna elements. However, Elson teaches that such “plurality” of active antenna elements is widely used in the art (Elson, column 11, line 16). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide Chiang’s antenna system with plurality of active antenna, as taught by Elson doing so it would enhance the signal quality for the antenna.

Claim 3 adds into claim 1 wherein the at least one antenna element comprises a plurality of antenna elements, disposed respectively along the periphery of the at least one conductive member, and cooperating therewith to establish a respective plurality of hemispherical beam patterns (Chiang, figure 20, dipole elements 308, lines 17-31).

Claim 4 adds into claim 3, wherein the at least one antenna element adapted to operate over a first wireless frequency band, and wherein a second portion of antenna elements are adapted to operate over a second wireless frequency band (Chiang, column 16, lines 37-46).

As per claim 5, Chiang teaches the claimed, the first and second wireless frequency bands are 2.4 Ghz and 5 GHZ wireless bands which Chiang does not explicitly disclose. However, Chiang teaches the antenna 300 resonates at two related frequencies such as 5.25 Ghz and 2.45 Ghz (Chiang, column 16, lines 37-46). It would have been obvious to one of ordinary skill in the art to vary the frequency bands in order to meet with the particular design of the antenna and to maximize the efficiency of the antenna.

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Claim 11 adds into claim 1, wherein the at least one conductive member comprises a single planar element, substantially coplanar with the at least one antenna element (Chiang, figure 20, element 202 and dipole element 308 orient in one planar).

Claim 12 adds into claim 1, wherein the at least one conductive member comprises a plurality of planar elements, substantially coplanar with the at least one antenna element (Chiang, figure 20, element 202 and dipole elements 308 orient in plurality of planar).

Claim 18 adds into claim 1 wherein the at least one antenna element is a dipole antenna and the at least one conductive member is at least one discrete component (Chiang, figure 20, dipole element 308, and active element 202);

Claim 19 adds into claim 1 wherein the at least one antenna element and at least one conductive member are formed on a single piece of circuit board material (Chiang, column 12, lines 56-64).

Claims 21, 23-25, 31-32, and 38-39 are similar in scope to claims 1, 3-5, 11-12, and 18-19; therefore, they are rejected for the same reason.

#### ***Allowable Subject Matter***

6. Claims 6-10, 13-17, 20, 26-30, 33-37, and 40 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Prior Art does not teach wherein the at least one conductive member comprises

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a plurality of non-intersecting conductive members wherein each conductive member is associated with at least one antenna element; at least one conductive member comprises a substantially angled member; a sandwich module for providing a further level of antenna isolation; the antenna element is shorter than the respective edge of the conductive member.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.



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***Inquiries***

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Huedung Cao whose telephone number is (571) 272-1939.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Huedung Cao  
Patent Examiner

Primary Examiner

A handwritten signature in black ink, appearing to read 'Huedung Cao', written over a horizontal line.